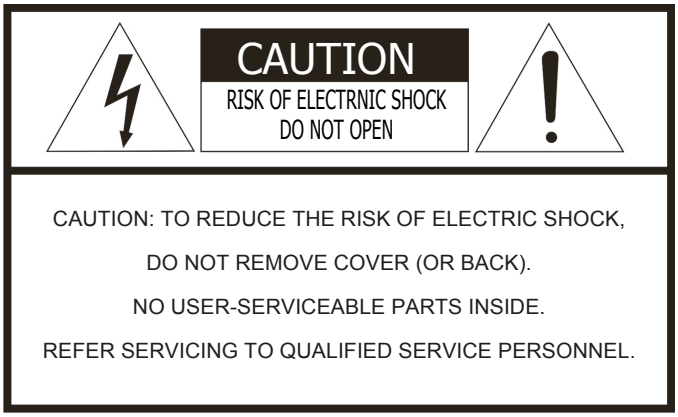
# INSTALLATION / OPERATION
# USER'S MANUAL

## Full HD SDI CAMERA

# WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

# CAUTION


CAUTION
RISK OF ELECTRNIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

# EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

# PRECAUTIONS

## Safety ----------

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.
Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials(curtains, draperies) that may block the ventilation holes.
Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

## Installation ----------

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.
The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

## Cleaning ----------

Clean the unit with a slightly damp soft cloth.
Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

# FCC COMPLIANCE STATEMENT

**FCC INFORMATION:** THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

**CAUTION:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

# CE COMPLIANCE STATEMENT

## WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

# IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, c or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been moisture, does not operate normally, or has been dropped.
15. ***CAUTION – THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU QRE QUALIFIED TO DO SO.***
16. ***Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.***

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# CONTENTS OF PACKAGE

Installation of the camera must be performed by qualified service personnel in accordance with all local and national electrical and mechanical codes.

Carefully remove the color camera and its accessories from the carton and verify that they were not damaged in shipment.

The content of the package includes:

1. Color CMOS HD-SDI Camera
2. Mini-DIN connector (DC-type auto-iris lens)
3. CS adapter ring for C mounting "C" lenses
4. This manual

# INTRODUCTION

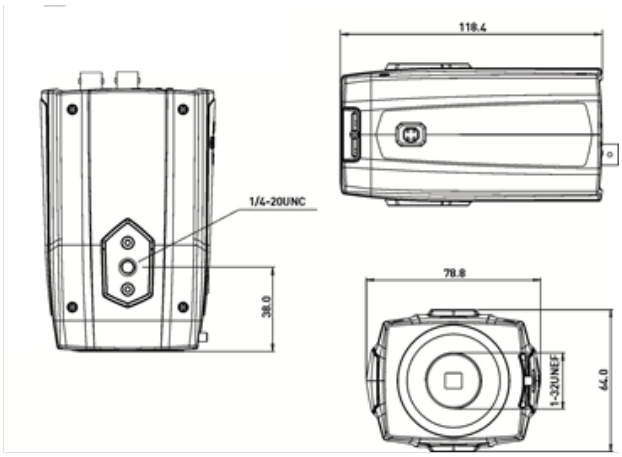
**Full HD 2Mega pixel Camera HD-SDI**
**1080@30fps HD-SDI & Composite Video OUT.**

## Features:

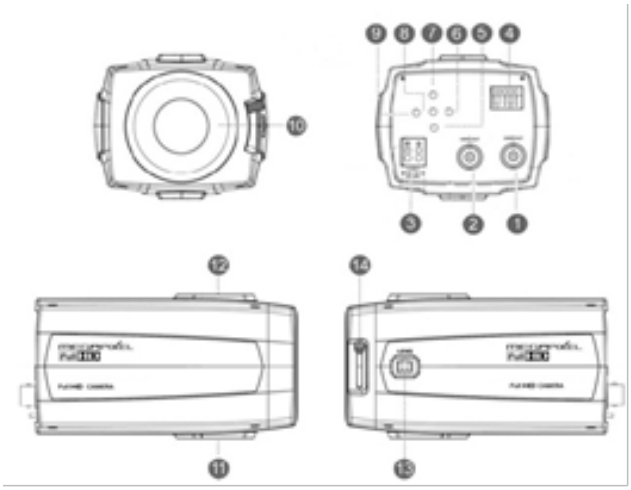
- Full HD (1920x1080p) Real Time
- High definition, 1080p video over 100m of RG59 or equivalent cable
- Advanced Technology for Surveillance
  - WDR( Wide Dynamic Range ) / BLC
  - 3D-Digital Noise Reduction
  - Digital Image Stabilization
  - Digital Slow Shutter
  - Digital Zoom x10 Max
  - Removable IR Cut Filter for Day & Night
  - Privacy Zone Masking
  - Video Motion Detection
  - Day & Night function
- Single 75Ω coaxial bi-directional RS 485 interface
- RS 485 interface
- HD-SDI Out/ CVBS Out / Alarm OUT / D&N IN
- Quick connect for DC lens with 4-pin connector
- User Certified / Listed Class 2 power source only
- Operates in 12VDC or 24VAC

# CAMERA OVERVIEW

### TOP VIEW



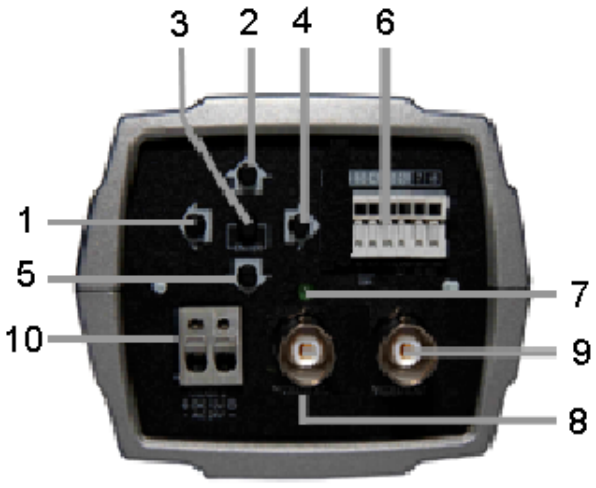

### SIDE VIEW




⑭ **FOCUS ADJUSTING / FIXING screw:** Tighten this screw after focus the lens of a camera.

⑮ **AUTO IRIS LENS connector:** Connect the DC auto iris lens 4-pin connector into this connector to control the amount of light allowed through the lens.

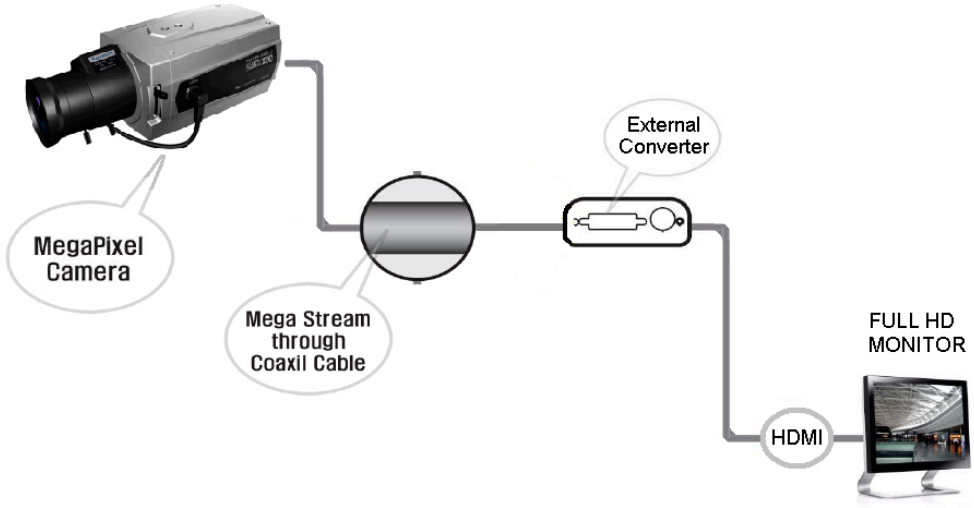
### REAR VIEW




① Left Button
② Up Button
③ Enter Button
④ Right Button
⑤ Down Button
⑥ Day/Night External IN
Motion ALARM OUT
RS - 485
⑦ Power Indicator
⑧ Video Output Connector (BNC)
⑨ HD-SDI OUT
⑩ DC12V IN/ AC24V IN

# CAMERA INSTALLATION

**Connection Overview**




## Starting Installation

1. Install the Lens
- Be careful the lens does not touch camera sensor when installer try to enter the lens into camera.
- Install manual lens or DC auto iris lens.
- If DC auto iris lens needs to install, connect DC auto iris 4-pin connector into iris drive connector located on the side of the camera.

2. Mount the camera
The camera can be mounted from both top side and bottom side.

3. Connect other peripheral devices
3-1.Connect the other peripheral devices such as Alarm, D&N IN and BNC connector.
3-2.Coaxial Cable is connected to the HD-SDI camera and the Converter
3-3.The HDMI Cable is connected to the Converter and the FULL HD Monitor .

4. Supply the camera with power.
- Connect DC12V or AC24V wires to the camera power connector. Be careful when DC12V wiring especially the direction of positive and negative. Use power supply compatible with FCC Class2.
- The camera will complete a configuration processing within approximately 4~5 seconds.

5. View the camera image

*** NOTES**
- Use **megapixel lens** for higher image quality.
- Megapixel lenses are designed and tested to deliver optimal image quality to the HD-SDI megapixel cameras.
- If the standard definition lens was installed on megapixel camera, the image quality will be poor than expected.
- Recommend to install the megapixel lens from the following lens manufactures.
  -- TAMRON
  -- COMPUTAR
  -- FUJINON

# DC Auto Iris Lens Installation & Adjustment

The camera supports DC-type auto iris lenses. Perform the following steps to install and adjust a DC-type auto iris lens.

- Solder the lens control wires to the connector supplied with the camera.

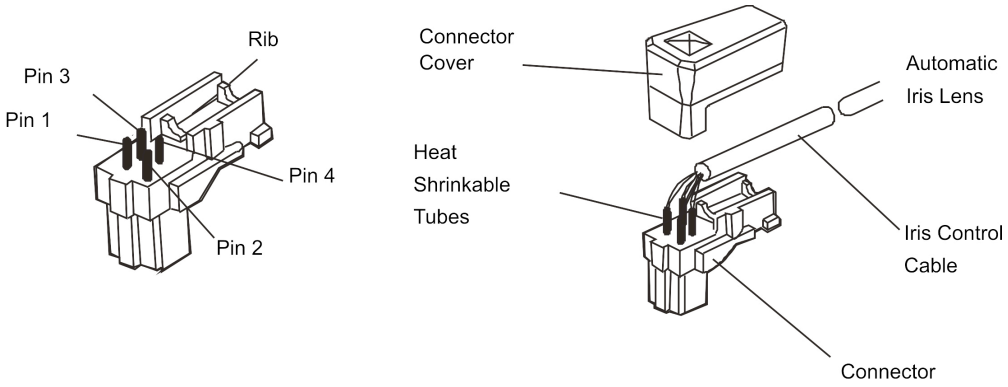



Figure 1. 4-Pin iris driver connector

- Attach the DC-type auto iris lens to the lens mount on the front of the camera.
- Plug the connector into the auto iris jack on the side of the camera. The connector is polarized and can be inserting into the iris jack one way.

| PIN | NAME | WIRE COLOR |
|---|---|---|
| 1 | Damp Coil - | Blue |
| 2 | Damp Coil + | Red |
| 3 | Drive Coil + | White |
| 4 | Drive Coil - | Green |

Figure 2. DC auto iris Lens connection

## OSD Menu Setup

The following table shows the list of menu items and options.
You can adapt the camera to your requirements by setting up the respective items in these menus

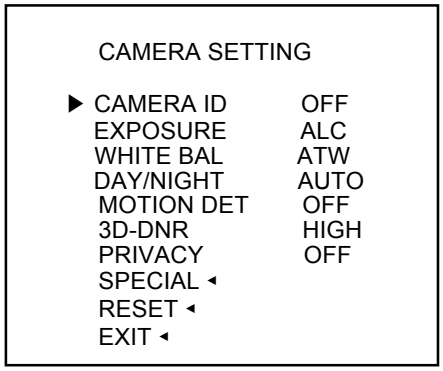
| Main Menu | Sub Menu | Contents | | |
|---|---|---|---|---|
| EXPOSURE | ELC/ALC | WDR/BLC | | OFF/WDR/BLC/ HSBLC |
| | | BRIGHTNESS | | 0 to 100 |
| | | AGC | | OFF/LOW/MIDDLE/ HIGH |
| | | SHUTTER | | X64, ..., x2, AUTO, OFF, A.FLK, 1/160, ..., 1/10 000 |
| | | SENS-UP | | OFF |
| | | | | AUTO |
| | | EXIT | | RET/TOP/END |
| WHITE BAL | ATW | - | | |
| | AUTO | - | | |
| | AWC b PUSH | - | | |
| | MANUAL | COLOR TEMP | | INDOOR, OUTDOOR |
| | | RED | | -100 to 100 |
| | | BLUE | | -100 to 100 |
| | | EXIT | | RET/TOP |
| DAY/NIGHT | AUTO | LEVEL | | LOW/ MIDDLE/ HIGH |
| | | DWELL TIME | | 5, 10, 15s |
| | | EXIT | | RET/TOP/END |
| | | DAY | | - |
| | | NIGHT | | - |
| MOTION DET | OFF | - | | |
| | ON | ZONE NUMBER | | AREA1 to AREA4 |
| | | ZONE STATE | | ON/OFF |
| | | HEIGHT | | 2 to 6 |
| | | WIDTH | | 2 to 8 |
| | | MOVE Y | | 1 to 5 |
| | | MOVE X | | 1 to 7 |
| | | SENSITIVITY | | 0 to 100 |
| | | EXIT | | RET/TOP/END |
| 3D-DNR | OFF | - | | |
| | LOW | - | | |
| | MIDDLE | - | | |
| | HIGH | - | | |
| PRIVACY | OFF | - | | |
| | ON | COLOR | RED, GREEN, BLUE | 0 to 255 |
| | | TRANSPARENCY | 0 to 16 | - |
| | | RECTANGLE | MASK NUMBER | AREA1 to AREA8 |
| | | | RECT. DISPLAY | ON/OFF |

| | | | | |
|---|---|---|---|---|
| | | | HEIGHT | 4 to 100 |
| | | | WIDTH | 4 to 100 |
| | | | MOVE Y | 2 to 98 |
| | | | MOVE X | 2 to 98 |
| | | CIRCLE | MASK NUMBER | AREA1 to AREA2 |
| | | | CIR. DISPLAY | ON/OFF |
| | | | HEIGHT | 1 to 15 |
| | | | WIDTH | 1 to 15 |
| | | | MOVE Y | 0 to 100 |
| | | | MOVE X | 0 to 100 |
| | | | RADIUS SIZE | 0 to 100 |
| | | POLYGON | MASK NUMBER | AREA1 to AREA2 |
| | | | POLY. DISPLAY | ON/OFF |
| | | | POLYGON DRAW | - |
| | | | POLYGON MOVE | - |
| | | EXIT | RET/TOP/END | |
| SPECIAL | D-ZOOM | OFF | | |
| | | ON | ZOOM | |
| | | | PAN | |
| | | | TILT | |
| | | | EXIT | |
| | D-EFFECT | OFF/ MIRROR/ ROTATE/ V-FLIP | | |
| | SHARPNESS | 0 to 68 | | |
| | COLOR | OFF/ ON | | |
| | STABILIZER | OFF/ ON | | |
| | USER TITLE | OFF/ ON | | |
| | LANGUAGE | English / German / French/ Spanish /Italian/Russian | | |
| | FRAME RATE | 30fps/25fps | | |
| | EXIT | RET/TOP/END | | |
| RESET | CAMERA REBOOT | - | | |
| | FACTORY RESET | - | | |
| | EXIT | - | | |
| EXIT | | | | |

# CAMERA OPERATION

## Main Menu

Click ↵ Button on the OSD control Window.
The camera setting menu appears on the view picture




Use up or down button to select an option the push button. submenu appears.
use up or down button to select a submenu option
Use right or left button to select a value.
Select <exit> option then push enter button to exit the setup menu, In the
Submenu, use right or left button to select a mode and push enter button
To exit the setup menu

RET : return to the previous.
TOP : return to camera setting menu screen
END : exit the setup menu

**<Exposure setting>**

Exposure is the amount of light detected by the camera sensor. A scene with correct exposure settings has adequate detail and contrast between white and dark values. An image with too little or too much exposure determines detail in the scene. The camera features auto and manual exposure settings.

**Exposure mode:** Supports exposure modes to control the amount of light detected by the camera sensor base on settings for light conditions. The default setting is ALC.

-- **ALC:** Automatic Light Control for indoor scenes.
-- **ELC:** Electronic Light Control for outdoor scenes.
**-WDR/BLC :** Use WDR/BLC option to view the object clearly in backlight condition.
- **WDR:** Wide Dynamic Range feature can be very helpful to cope with very challenging lighting conditions. It is capable of capturing both of the dark part and bright part and combining the differences into a scene to generate a highly realistic image as original scene.
-- **BLC:** Back Light Compensation feature helps to alleviate the issues of visibility in high contrast area.
-- **HSBLC:** Highlight Suppression Back Light Compensation.

**-Brightness:** The image brightness can be adjusted in the range 0-20, where a higher value produces a brighter image.

**-AGC:** Select an AGC level according to Mode selection.

**NOTE**
If you set [AGC] to OFF, then the [Day and Night Auto], [SENS-UP] and [3D-DNR] are not available.

**- Shutter speed:** Select a Shutter speed option.
-- **X64 to X2:** Set to the slow shutter.
-- **Auto:** Adjust the shutter speed automatically.
-- **Off:** Fix to the shutter speed.
-- **AntiFlk:** Set the shutter to anti-flick mode.
**-- 1/160 to 1/10000:** Set to the fast shutter.

**NOTES**
- If you set [Shutter speed] to Auto, then the [WDR] and [SENS-UP] are available.
- If you set [Shutter speed] to AntiFlk, then the [WDR] is available.
- In Shutter speed mode, the [WDR] and [SENS-UP] are not available, except that the mode is Auto or AntiFlk.

**- Sens-Up:** If pictures are not clear due to darkness, this SENS-UP operation would increase the sensitivity of picture.
-- **Off:** Not in use.
-- **Auto:** Adjust the sensitivity of the picture automatically.
**-Sens-Up level:** Select the Sense-Up level (x2 to x64).

**<White Balance setting >**
White Balance Control defines how the camera processes video images to render true colors in a scene. White balance is especially effective in scenes with changing lighting conditions or in scene with more than one type of light source.

**White balance mode:** Provides the options for White Balance. The default setting is ATW.
-- **ATW:** Auto-Tracking White Balance. In this mode, white balance has better coverage than AUTO. Proper white balance may not be obtained under the following condition.
> When the scene contains mostly high color temperature objects, such as a blue sky or sunset.
-- **Auto:** Set the white balance mode automatically.
-- **AWC_PUSH:** Auto White Balance Control. If you select this mode, you will be able to set up the White Balance by push triggered white valance in fixed mode.
-- **Manual : You can set the white balance options manually.**
> **Color TEMP:** use right or left button to select a function.
**Indoor:** Set the white balance options manually. The color temperature range for the white balance is approximately 3200K.
**Outdoor:** Set the white balance options manually. The color temperature range for the white balance is approximately 5100K.
> **RED :** set desired red value.
> **BLUE :** set desired blue value.

**<Day & Night setting>**
The D&N controls the position of the IR (Infra Red) cut filter, which determines the color or black-white setting of the camera.

**Day & Night mode:** Select a mode for DAY/NIGHT function.
-- **Auto:** Day & Night mode changes automatically.
-- **Day:** Color mode enabled.
-- **Night:** Black-and-white mode enabled.
-- **EXT:** This menu automatically converts the COLOR Mode into the B/W Mode or vice versa depending on illumination with an external sensor.

**< Motion DET setting>**
When motion is detected in the area of setting an alarm signal is output

**MOTION DET OFF/ON :** Select a mode for M. ON / M. OFF function.
-- **ZONE NUMBER** : Select a motion for area.
-- **ZONE STATE** : Select a range of motion display box
-- **HEIGHT/ WIDTH:** motion display box scaling
-- **MOVE Y/ MOVE X** : motion display box Move.
-- **SENSITIVITY** : Action sets the sensitivity.

**< 3D-DNR setting>**
3Dimensional-Digital Noise Reduction function dramatically cleans up the noise in video frames and solves the problem of low- light sensitivity where it can display high image resolution even in extremely low light conditions.

**Level:** Select one of the 3D-DNR levels.
-- **Off:** Not in use.
-- **High:** Select a High level.
-- **Middle:** Select a Middle level.
-- **Low:** Select a Low level.

**< PRIVACY setting>**

Use the Privacy Mask tab for aiming at the protection of personal privacy.
**Mode:** Select an ON mode for Privacy Mask function.
-- **Off:** Not in use.
-- **On:** Set and Use the P-Mask function.
1. Select an ON mode and click the Save button. Then P-Mask OSD windows will be appears.
2. Click the Enter button for PRIVACY SETUP OSD menu.

**-- Color R/G/B:** You can make any color by adjusting R.G.B level.
**--TRANSPARENCY:** You can adjust the transparency of MASK.
**-- REC/CIR/POL**

**-- RECTANGLE**
1. Use [Left Direction] or [Right Direction] button to select a mask on the [MASK NUMBER].
2. Use [Left Direction] or [Right Direction] button to set up the [ON] or [OFF] on the RECT.DISPLAY option.
3. Use [Upper Direction] or [Lower Direction] button to select an option then use [Left Direction] or [Right Direction] button to adjust the option.
- HEIGHT: Increase or decrease the vertical size of the mask.
- WIDTH: Increase or decrease the horizontal size of the mask.
- MOVE X: Moves horizontal position of the mask.
- MOVE Y: Moves vertical position of the mask.

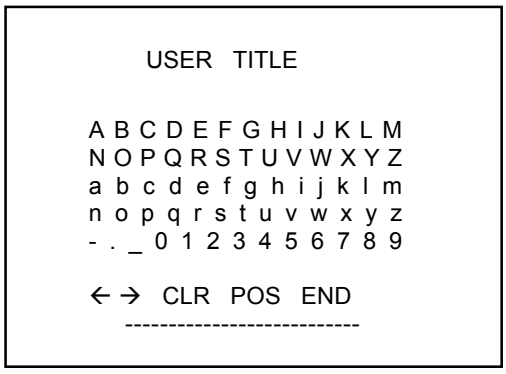
**-- CIRCLE**
1. Use [Left Direction] or [Right Direction] button to select a mask on the [MASK NUMBER].
2. Use [Left Direction] or [Right Direction] button to set up the [ON] or [OFF] on the CIR.DISPLAY option.
3. Use [Upper Direction] or [Lower Direction] button to select an option then use [Left Direction] or [Right Direction] button to adjust the option.
- HEIGHT: Increase or decrease the vertical size of the mask.
- WIDTH: Increase or decrease the horizontal size of the mask.
- MOVE X: Moves horizontal position of the mask.
- MOVE Y: Moves vertical position of the mask.
- RADIUS SIZE: You can adjust the RADIUS SIZE.

**-- POLYGON**
1. Use [Left Direction] or [Right Direction] button to select a mask on the [MASK NUMBER].
2. Use [Left Direction] or [Right Direction] button to set up the [ON] or [OFF] on the POLY.DISPLAY option.
3. Use [Upper Direction], [Lower Direction], [Left Direction], [Right Direction] and [Enter] buttons to draw the polygon by moving each vertex on the [POLYGON DRAW]. Each movable spot each time you can click the [Enter] button.
4. Use [Upper Direction], [Lower Direction], [Left Direction], [Right Direction] and [Enter] buttons to move the polygon on the [POLYGON MOVE].

**< SPECIAL setting>**
Implement various functions.

-- **D-ZOOM** : You can select the digital zoom level.
-- **D-EFFECT** : You can select the digital effect.
-- **SHARPNESS** : The degree to which boundary of the two portions is clearly distinguished.
-- **COLOR** : You can switch the displayed picture to gray scale or color.
-- **STABILIZER** : The image stabilizer function minimizes the appearance of shaky images caused by low-frequency vibration.
This function is useful for outdoor surveillance.
Select the [STABILIZER] option and set to ON or OFF.
**Note:** If you set the [STABILIZER] to ON, the Digital zoom is set to [x1.1] automatically.

--**USER TITLE** : You can use the camera identification to assign a number and character to the camera(0 to 9, A to Z, a to z). To disappear the user title, select [OFF].




1. Select the [USER TITLE] option on the [SPECIAL] screen.
2. Use < or >button to select [ON] then click ↵ button. The USER TITLE menu appears.
3. Use ▲ , ▼, □ or □ button to select a character or number then click ↵ button.
   - CLR: Clear all entered characters and numbers.
   - POS: Move the USER TITLE position on the screen using the arrow buttons.
   - END: Confirm your selection or exit the setting.
   - _ (Blank): Insert a space at the cursor position.
   - ← / → : Moves cursor to left or right

--**LANGUAGE** : Select the viewer language for the camera setup menu and OSD information display.

--**FRAME RATE** : You can select the HD 30fps or 25fps.(IN 50Hz lighting Condition, 25fps recommended)

**< RESET setting>**

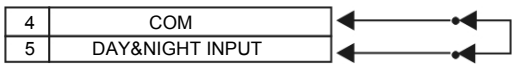
- **CAMERA REBOOT :** Reboot the camera system.
- **FACTORY RESET:** Clear certain setting and information and return to factory default settings. The camera is restarted without changing any of the setting.

# CONNECTIONS/DAY&NIGHT IN & ALARM OUT TERMINALS

**1) DAY&NIGHT IN Terminals**

To select Day/Night mode using external equipment, by connecting control lines to the appropriate terminals.

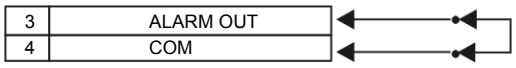
- **DAY/NIGHT EXTERNAL INPUT**
  Switches the cameras D/N mode to either Day or Night based on the input status.
  Refer to the diagram below. The cameras **D/N mode** must be set to **EXT** for this to function




Open contact: DAY
Close contact: NIGHT

**2) ALARM OUT** – TTL level

Motion detection signals are output through this port. Active state is configurable.




ALARM OUT Normal : 0V
ALARM OUT Active : 5V
Period : Alarm out period (5sec)

**3) CAMERA CONTROL**

- 1 PIN: RS 485+
- 2 PIN: RS 485-

**4) POWER INPUT TERMINAL**

- This terminal accepts a DC12V or AC24V power source from a DC12V or AC24V ac +/-10% 60/50Hz +/- 1Hz.
- Use Certified/Listed Class 2 power supply only.
- It is recommended to use the DC power supply that can support inrush current over 0.75A min

# SPECIFICATIONS

| Item | | | | HD-SDI Camera |
|---|---|---|---|---|
| Power | Power source | | | DC 12V / AC 24V ± 10% |
| | Power consumption | | | 12Vdc / 0.3A |
| General | Lens | | | Optional |
| | Image sensor | | | 1/2.8” 2Mega Pixel CMOS Sensor |
| | Effective pixels | | | 1920(H)x1080(V) |
| | Scanning Mode | | | Progressive Scan |
| | Supported Lens Type | | | Auto DC Iris, Manual Iris |
| | Low Light Sensitivity | | | 0.3Lux |
| | HD-SDI Output | | | 1920x1080p@30fps |
| | Resolution | | | TBD TVL |
| | Output Format / Interface | | HD-SDI | SMPTE-292M / 75 Ohm BNC |
| | | | Composite | 1Vp-p / 75 Ohm BNC |
| | S/N ratio | | | 50dB (AGC OFF) |
| | Camera control | | | RS485 (Faxtrax, Pelco D, Pelco P) |
| | FUNCTION | White Balance | | AUTO/ ATW / MANUAL/AWC→Push / AUTO |
| | | White Balance Range | | 2500°K - 9600°K |
| | | Exposure | | ALC/ELC , HSBLC /BLC/WDR |
| | | AGC | | Off / Low / Middle / High |
| | | Shutter Speed | | Auto , Off, X64 to X2, AntiFlk , 1/160 to 1/10000 |
| | | Wide Dynamic Range | | 68 dB |
| | | User Title | | Character (0 to 9, A to Z, a to z) |
| | | Display | | Off /On ( User Title) |
| | | 3D-DNR | | Off / Low / Middle / High |
| | | Day & Night | | Auto / Day / Night / Ext |
| | | True Day/Night | | IR Cut /Pass Filter |
| | | Privacy zone | | Color, Transparency ,Rectangle, Circle, Polygon |
| | | D-Effect | | Off/ MIRROR/ ROTATE/ V-FLIP |
| | | Sense-up | | x64 |
| | | Sharpness | | 0~68 steps |
| | | Cam ID | | 001~255 |
| | | WDR Limit | | Low / Middle / High |
| | | D-Zoom | | ZOOM(x10) ,PAN,TILT |
| | | Stabilizer | | Off /On |
| | | Language | | English / German / French/ Spanish /Italian/Russian |
| Connec-tor & etc | Power input | | | Terminal block |
| | Auto iris output | | | 4-Pin mini din jack (standard connection) |
| | Lens mount | | | C/CS mount |
| | Mounting hole | | | 1/4"-20 UNC (top or bottom) |
| | Control and Connection | | | D/N In ,Alarm Out,RS485 |
| | Operating Temp. | | | -10ºC to +50ºC |
| | Operating humidity | | | Less than 90% |
| | External dimension | | | 66 (W) x 56 (H) x 120 (D)mm |
| | Weight | | | 280g (only camera) |